

REMARKS

Claims 1-71 are pending in the application and claims 4, 6-37, 44-66, 70 and 71 are withdrawn from consideration.

Further Restriction

In response to the Restriction Requirement, Applicants provisionally elect, with traverse, Group IA, claims 1-3, 5, 38-43, and 67-69. However, it is respectfully submitted that examination of all claims simultaneously would place no undue burden on the Examiner. The Applicants respectfully point out that examination of the claims of Group IB (claims 58-64, 70, and 71) necessarily entails a search of the subject matter of Group IA, and therefore submit that the examination of Groups IA and IB together present no significant burden over the examination of Group IA alone.

For a restriction requirement to be valid, the Examiner must establish that the search and examination of the entire application cannot be made without serious burden (M.P.E.P § 803). Accordingly, Applicants respectfully request examination of all claims simultaneously.

Rejection of claims 1-3, 5, 38-43, 58-64, and 67-71 under 35 U.S.C. 112, second paragraph

Claims 1-3, 5, 38-43, 58-64, and 67-71 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite.

In particular, the Office Action states that:

The stated method of claim 1 is determination of properties of a protein. However, step a) of claim 1 already assumes that, for a given protein, this properties of a protein are already provided in a database. Hence, the question is, what remains to be determined?

Further, method steps whereby a sequence is analyzed using correlation to biophysical/biochemical properties are not clear. For example, how the knowledge of amide hydrogen exchange, or conditions of crystalization, or behavior during mass spectrometry, is applied to analyzing protein sequence (wherein the latter is predetermined sequence of connected amino acid residues in a protein). Such knowledge does not seem to be helpful in clarifying sequence of connected amino acid residues in a protein. And again, how is analyzing

sequence using known functional properties of a protein will assist in determining same functional properties which are already known.

The rejection is respectfully traversed.

Contrary to the assertions of the Office Action, Applicants respectfully submit that claim 1 does not assume that for a given protein the properties of such protein are already provided in a database. Applicants note that as stated in the Office Action response filed on April 3, 2003, ~~claim 1 as written would be understood by one of ordinary skill in the art.~~ In particular, Applicants direct the Examiner to basic claim construction rules regarding antecedent basis, and to MPEP 2173.05(b): "Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, *in light of the specification*." (emphasis added by Applicants). The preamble introduces "a protein," and further references to "the protein" are not otherwise included in the claim until feature (c). Accordingly, if Applicants intended references to "protein sequence information," etc., in features (a) and (b) to refer to "sequence information of the (preamble) protein," Applicants would have drafted the claim as such. As Examiner knows, the claims were *not* written to provide such association with the exception of feature (c) that clearly provides an association of "the protein" to the preamble protein. Once again, with further reference to MPEP 2173.05(b), one of ordinary skill who read the specification would understand that the claimed database includes protein data beyond protein data of the preamble's protein.

The Examiner's attention is further directed to the description in the specification, for example and without limitation, at page 4, lines 9-17, which describes in part the present invention: "The invention provides for a database of protein sequence information and experimentally determined biochemical and biophysical properties of proteins. The database is analyzed using data-mining techniques to find correlations among protein sequence information, biochemical properties and biophysical properties. *The correlations provide predictive rules relating a protein's sequence to its biochemical and biophysical behavior. Using the correlations obtained from the data-mining techniques, the properties of new proteins are determined given their amino acid sequence information.* This allows the optimization of the conditions necessary for high-throughput techniques, such as expression, purification, crystallization, NMR-sample preparation, structure determination and screening for binding to other molecules." (*emphasis added*)

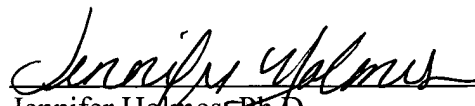
Additionally, the Examiner's attention is directed to the description in the specification, for example and without limitation, at the paragraph bridging pages 4-5, which further in part describes the present invention: "It is an object of this invention to provide a database of protein sequence information and experimentally determined protein properties. The database can be analyzed using data-mining techniques to find correlations among protein sequence information, biochemical properties and biophysical properties. Using the empirical correlations obtained from the data-mining techniques, *the properties of new proteins are determined given their amino acid sequence information alone or using a combination of the sequence information and one or more properties.*" (emphasis added)

Accordingly, Applicants submit that the claims as written would be understood by one of ordinary skill in the art in light of the specification. Therefore, reconsideration and withdrawal of the rejection of claims under 35 U.S.C. §112, second paragraph, is respectfully requested.

CONCLUSION

Applicants consider the Response herein to be fully responsive to the referenced Office Action. Based on the above Remarks, it is respectfully submitted that this application is in condition for allowance. Accordingly, allowance is requested. If a telephone conversation with Applicant's Attorney would expedite prosecution of the above-identified application, the Examiner is urged to call the undersigned at (617) 832-1000.

Respectfully submitted,

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